

REMARKS

Applicant thanks the Examiner for carefully considering this application. Please reconsider the application in view of the following remarks.

Disposition of the Claims

Claims 1-7 were pending. Claims 2 and 7 are cancelled. New claim 8 was added. Claims 1, 3-6 and 8 are pending in the current application.

Claim Amendments

Claims 1 and 5 have been amended. Added limitation to the claim 1 is based on the disclosure in paragraphs 0011, 0016 and 0028 of the original Specification. Added limitation in claim 5 is at lines 1-4 on Page 9 and in Fig. 5 of the original Specification. Claim 4 has been amended to correct a misspelling of “IGBT”. New claim 8 is based on the disclosure in paragraph 0016 of the original Specification. No new matter is introduced by these amendments.

35 U.S.C. § 102 rejections

Claims 1-3, 5, & 7 are rejected under 35 U.S.C 102(b) as being anticipated by Lindemann et al. (US Pat No. 5,012,825).

Claim 1 of the present invention is directed to a punch device for a substrate having a large breadth and small thickness. Specifically, claim 1 recites:

The punching mechanism comprises at least two or more electrode matrixes, each electrode matrix is made up of N sets of electrode bars longitudinally arrayed which form an angle with the movement direction of the substrate. The angle between the electrode bars and the movement direction of the substrate is changeable by adjusting the position of either end of the electrode bars. Each pair of the electrode bars comprises a upper bar and a lower bar, and each pair of the electrode bars comprises an anode bar and a cathode bar on either side of the substrate. Each bar is provided with M electrode-pins, and the electrode-pins provided on the respective upper bar and the respective lower bar are aligned with each other, with $1 \leq N \leq 100$ and $1 \leq M \leq 50$. The movement direction of the substrate crossing the electrode matrixes is vertically downward or upward and the axial direction of the positive and negative electrode-pins is horizontal. The electrode elevating mechanism comprises a control computer and a hydraulic control system. The control computer simultaneously controls alignment of each pair of the electrode-pins and keeps a default interval between the electrode-pins of each pair of the electrode-pins by utilizing the hydraulic control system.

Lindemann discloses an apparatus for electrically perforating a running web of wrapping material (such as cigarette paper or tipping paper) for smokers' products. The apparatus comprises means for advancing a web in a predetermined direction along a predetermined elongated path, a first perforating unit which is adjacent a first portion of the path, and a second perforating unit which is adjacent a second portion of the path downstream of the first portion. Each perforating unit preferably comprises first and second electrode holders which are disposed

at opposite sides of the path. Furthermore, each perforating unit comprises a set of series-connected perforating electrodes (corresponding to the electrode matrix in claim 1), and each such set can include one or more rows which extend substantially in the predetermined direction. Each electrode on each of the first holders is preferably located opposite an electrode on the respective second holder. The apparatus further comprises means for cleaning separated fragments deposit on the electrodes.

However, Lindemann fails to disclose that “the angle between the electrode bars and the movement direction of the substrate is changeable by adjusting the position of either end of the electrode bars.” Lindemann also fails to disclose that “an electrode elevating mechanism comprises a control computer and a hydraulic control system” and that “the control computer simultaneously controls alignment of each pair of the electrode-pins and keeps a default interval between the electrode-pins of each pair of the electrode-pins by utilizing the hydraulic control system.”

For reasons set forth above, Lindemann fails to disclose all the limitations recited in claim 1. Therefore, claim 1 and its dependent claims are not anticipated by Lindemann. Withdrawal of this rejection is respectfully requested.

35 U.S.C. § 103 rejections

Claim 4

Claim 4 is rejected under 35 U.S.C 103(b) as being unpatentable over Lindemann et al. (US Pat No. 5,012,825) in view of Hollinetz (US Pat No. 4,501,953).

A combination of Lindemann and Schenetzka and/or Hollinetz does not teach or suggest all the features of claim 1. Therefore claim 4 is patentable over Lindemann in view of Schenetzka and/or Hollinetz. Withdrawal of this rejection is respectfully requested.

Claim 6

Claim 6 is rejected under 35 U.S.C 103(b) as being unpatentable over Lindemann et al. (US Pat No. 5,012,825) in view of Schenetzka et al. (US Pat No. 5,898,554).

A combination of Lindemann and Schenetzka and/or Hollinetz does not teach or suggest all the features of claim 6. Therefore, claim 6 is patentable over Lindemann in view of Schenetzka and/or Hollinetz. Withdrawal of this rejection is respectfully requested.

New Claim 8

New claim 8 depends from claim 1. In addition, the limitation “the default interval between the electrode-pins of each pair of electrode-pins is 0.5~5mm” was not disclosed in any references. Therefore, claim 8 should also be patentable.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance.

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Respectfully submitted,

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